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## IVORY EXOSTOSIS OF ORBITS OPERATED UPON AND OBSERVED DURING EIGHTEEN YEARS,

WITH DEMONSTRATION OF PATIENT.

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THE case which I have the privilege of showing here to-day is the same as I described as far back as 1887 in the December number of the *Ophthalmic Review*. Then it was interesting on account of the mode of operation adopted; to-day the course the disease has taken in the meantime will prove of equal interest. The publication of 1887 being no longer easily obtainable, I shall briefly mention the important points given there. I am able also to add photographs taken at different epochs of the history of the case.

In October, 1884, the patient, then 24 years of age, came to me for the first time. Protruding below the inner half of the right eyebrow was a large roundish tumour, very hard, immovable, completely filling the upper and inner half of the orbital margin (Figs. 1 and 2). The right eye was pushed outwards and downwards on to the right zygoma. The movements of the eye were free but impaired in all directions; the lids closed with difficulty. The conjunctiva was hyperaemic, the optic disc of a reddish colour, the retinal veins dilated;  $V = \frac{1}{2}\%$ . The left eye was quite normal, but in the inner side of the orbit a small hard prominence about the size of a cherry-stone was distinctly to be felt;  $V = 1$ .

As for the history of the complaint, no information could be obtained as to any blow or fall.<sup>1</sup> Later on, however—in 1896 and 1899—the patient said when 10 years of age he received an accidental blow on the forehead over the nose and right eyebrow.

In October 1884, the patient stopped away, and did not return until September, 1886. The tumour had greatly

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increased in size, almost completely filling the right orbit. The eyeball, protruding and unprotected, had undergone disastrous changes: sloughing of the cornea, suppuration and complete destruction of vision (Fig. 3). There were two fistular openings in the upper lid, as clearly shown in the photograph. The small exostosis in the left orbit had also grown, the eyeball being pushed downwards, outwards, and forwards, while vision was impaired to  $\frac{1}{8}$ . The sloughing right eyeball was removed at once, and the wound healed quickly. The patient then asked for help for of the left eye, willing to submit to any operation that might save that eye. For the reasons given fully in my previous publication I adopted the plan of removing the tumour by drilling a number of deep holes through its base, and cutting then from hole to hole sideways by drills made specially for the purpose. After a sitting of over two hours and a-half two very hard exostoses were removed. The patient left the hospital on the twelfth day, and soon his vision was restored to normal. The gentleness with which it was possible to perform the operation amply repaid for its long duration and fatigue.

In the summer of 1892 the patient came back again. Fig. 4 shows the left eye in perfect condition, though a little pushed laterally; between eye and nose a sinus. The right orbit is completely filled by a bony tumour, the nasal portion lies bare to the extent of the area of a half-crown piece, the temporal portion covered by the oedematous upper lid; the lid opening pushed downwards and outwards; the lower lid oedematous, like a sausage in appearance. The free surface of the bone covered with a greenish slimy mass, the skin undermined, and discharging from various openings a scanty pus. It was noticed that the inner half of the tumour appeared to be slightly movable. Incisions were made for the purpose of better drainage.

In October, 1895, the discharge had become very putrid, though not increased in quantity. The tumour was a little more movable, and I decided to take out as much as possible. This I did with the help of my colleague, Mr. Larkin. A large compact bone of a somewhat globular shape, 2 in. broad and thick and  $2\frac{1}{2}$  in. long was removed (shown). Below it another hard bony mass then became noticeable, also slightly movable. It was situated so low that it became necessary to open the right side of the nose altogether, from the orbit right into the nostril, and finally a second large bone was "delivered." This bone (exhibited) turned out to be the enormously enlarged middle turbinate bone, the measurements of the specimen being now as it is after maceration:  $2\frac{3}{4}$  in. long,  $1\frac{1}{2}$  in. broad, and over  $\frac{3}{4}$  in. thick, all a dense, compact, ivory-like mass (Fig. 5).

A third large bone (exhibited) of equally dense structure was then removed, representing the hypertrophied nasal portion of the infraorbital margin and lachrymal bone; it still shows some of the drill holes of 1886 (Fig. 6).

The patient recovered quickly from the operation, but the mass and extent of the removed bone had left a large opening in the inner half of the orbit through which the right palate could be easily seen. This opening gave great inconvenience to the patient both as far as appearance was concerned and also with regard to respiration in the cold part of the year. In May, 1896, he therefore came back to see whether anything further could be done for him.



Fig. 1.—The right eye is pushed outwards and downwards by a large tumour in the upper and inner part of the orbit; the eye itself not yet damaged.



Fig. 2 shows the profile; Figs. 1 and 2 were taken at the same time. Both show the profile of the nose very well.





Fig. 3.—The right eyeball has been destroyed; an ulcerating oedematous conjunctival mass protrudes from the lids; two fistular openings on the upper lid. In the inner canthus of the left eye a small protrusion, indicating the bony growth there, is just visible.



Fig. 4.—The bony tumour fills the whole of the right orbit; the nasal portion of the bone lies bare, the temporal portion is covered by the oedematous upper lid; the two fistular openings of Fig. 3 are easily recognized; on the left side between inner canthus and nose a fistular opening.







Fig. 5.—Four-fifths natural size. The lower specimen shows the large exostosis removed from the orbit. The exposed part of bone in Fig. 4 is the part lying towards the right. The upper specimen is the enlarged turbinate bone; it is seen here edgewise.



Fig. 6.—Three fourths natural size. The large bone to the left is of pyramidal shape. The two holes on the lower surface are the drill holes of 1886. There are six smaller pieces shown here. Several other fragments have crumbled away during the maceration, which for cleansing purposes lasted for over a year. (The bones taken out in 1886 were unfortunately lost.)







Fig 7.—The most striking feature at that time was the large opening between the nose and the right eyelids; the latter have fallen downwards and outwards. The scar goes through the whole length of the right side of the nose; another scar is visible on the left of the root of the nose. The sinus of the forehead is healed, and indicated by a deep contracted scar.



Fig 8.—The opening of Fig. 7 is now successfully closed. The right eyelids are almost in their normal position. A glass eye might be worn, but patient prefers to be without. Compare the bridge of the nose in the photographs Figs. 1 and 2, Fig. 4, and Figs. 7 and 8.



Fig. 7 shows his appearance at that time. The large gap under the right supraorbital margin, the scar along the right side of the nose, and the one on the left side of the nose are plainly visible. The hollow in the forehead is due to retraction and partial necrosis of bone from undermining suppuration.

In May, 1896, a few bits of necrotic bone were removed, and the gap closed by a plastic operation. But the tissue had become so cicatricial and void of elasticity, that most of the sutures gave way. A second attempt was made in July, 1896, with a slightly better result; and only after a third plastic operation in September, 1896, could a complete closing be effected; and ever since the patient has been well and able to attend to his business.

Fig. 8 was taken soon after completion of the healing. I have great pleasure in showing you the patient now, and you will see how greatly his appearance has improved since the last photograph was taken. Three days ago I examined the sight of the left eye, and found it  $V=\frac{3}{8}$  (!). He is slightly hypermetropic and begins to be presbyopic, being now 42 years of age. I have not been able to notice any great progress in the hyperostosis during the last few years which have been years of comfort to him, and the case is remarkable operatively, clinically, and pathologically.

#### REFERENCE.

- <sup>1</sup> *Ophthalmic Review*, 1887, p. 341.

